

THURSDAY, JULY 18, 1912.

BOTANY AND GARDENING.

- (1) *Elementary Plant Biology*. By J. E. Peabody and A. E. Hunt. Pp. xvii+207. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1912.) Price 4s.
- (2) *A Manual of Structural Botany*. An Introductory Text-book for Students of Science and Pharmacy. By Prof. H. H. Rusby. Pp. viii+17-248. (London: J. and A. Churchill, 1912.) Price 10s. 6d. net.
- (3) *Mikroskopisches Praktikum für systematische Botanik (I., Angiospermae)*. By Prof. M. Möbius. Pp. viii+216. (Berlin: Gebrüder Borntraeger, 1912.) Price 6.80 marks. (Sammlung naturwissenschaftlicher Praktika. Band I.)
- (4) *Lebensfragen aus der heimischen Pflanzenwelt*. Biologische Probleme. By Dr. G. Worgitzky. Pp. viii+295+iii. (Leipzig: Quelle and Meyer, 1911.) Price 7.20 marks.
- (5) *Anleitung zur mikroskopischen Untersuchung von Pflanzenfasern*. By Dr. G. Tobler-Wolff and Prof. F. Tobler. Pp. viii+141. (Berlin: Gebrüder Borntraeger, 1912.) Price 3.50 marks. (Bibliothek für naturwissenschaftliche Praxis, 5.)
- (6) *Wild Flowers as They Grow*. Photographed in Colour Direct from Nature by H. Essenhig Corke. With Descriptive Text by G. Clarke Nuttall. Third Series. Pp. viii+199. (London: Cassell and Co., Ltd., 1912.) Price 5s. net.
- (7) *Oxford Gardens*. Based upon Daubeny's Popular Guide to the Physick Garden of Oxford: with notes on the gardens of the colleges and on the University Park. By R. T. Günther. Pp. xv+280. (Oxford: Parker and Son; London: Simpkin, Marshall and Co., Ltd., 1912.) Price 6s. net.
- (8) *Gardening for the Ignorant*. By Mrs. C. W. Earle and Ethel Case. Pp. xxiii+232. (London: Macmillan and Co., Ltd., 1912.) Price 1s. net.
- (9) *Annuals, Hardy and Half-Hardy*. By Charles H. Curtis. Pp. xi+116+8 coloured plates. (London and Edinburgh: T. C. and E. C. Jack, n.d.) Price 1s. 6d. net. ("Present-day Gardening" series.)
- (10) *Iris*. By W. Rickatson Dykes. Pp. xiii+110+8 coloured plates. (London and Edinburgh: T. C. and E. C. Jack, n.d.) Price 1s. 6d. net. ("Present-day Gardening" series.)
- (11) *How to Make an Orchard in British Columbia*. A Handbook for Beginners. By J. T. Bealby. Pp. viii+86. (London: A. and C. Black, 1912.) Price 1s. 6d. net.

THESE eleven books, widely though they differ as to subject-matter, have sufficient in common to make them of interest to the

botanist, since they are all concerned with plant-life as studied in laboratory, countryside, garden, farm, and orchard.

(1) This certainly deserves to rank among the best of the many excellent manuals of elementary botany published during recent years, for the authors have worked out a thoroughly practical and interesting course of work for junior students, and have logically and consistently kept in view throughout their conviction that "young students are naturally more interested in activities or functions than they are in mere form or structure; hence, if we wish to work with rather than against the grain, we must put function in the foreground of our discussion." The book will be of great use to teachers in arranging their courses of work, and is equally suitable for classes in day training colleges and in secondary schools.

(2) Prof. Rusby's manual is the very antithesis of the one just noticed. It presents an excellent treatment of the general morphology of plants, a branch of botany which is often badly neglected. It is, however, difficult to agree with the author that his book is "a fairly complete introduction to botany," or to understand why it should be considered necessary to omit physiology from the botanical curriculum of pharmaceutical students, and to present to them only the facts of morphology. This work will be useful for reference, but as an introduction to botany it is a dry and stodgy compilation, containing perhaps the richest collection of technical terms ever compressed into two hundred pages of any botanical work of recent years not avowedly a dictionary. It reminds one of Mark Twain's short poem into which were insinuated the "musical and gurgly" names of sixty-six Australian towns; it might be possible, but would be difficult, to have got more of them into the space. If the terms "anthology," "anthotaxy," and "carpology" are to come into general use for the study of flowers, inflorescences, and fruits respectively, why not go the whole hog and bring in such terms as "phyllology," "cladology," "rhizology," "acanthology," "trichology," &c.—*ad infinitum*? The first sixteen pages are mysteriously absent—perhaps the lacuna represents a mislaid, though badly needed, glossary of technical terms.

(3) Prof. Möbius breaks new ground in this work, which fills a distinct gap among the laboratory manuals hitherto available. The floral structure of Angiosperms is too often scamped in courses of botanical laboratory work, both elementary and advanced. The flowers are hastily dissected, the floral formula written, the floral diagram drawn, the text-book "characters of the order" copied into the student's note-book or

floral schedule, and the thing is done—the mechanism of pollination, inferred from structural characters, may also be noted, if teacher or student be usually wide-awake and biologically minded. Those who do not consider this method sufficient will welcome the present work, which is beautifully illustrated, and may be surprised to learn how many interesting points in floral structure can be made out by taking the necessary trouble, according to the clear directions given by Prof. Möbius.

(4) Dr. Worgitzky's work is largely concerned with floral biology, though it goes much farther afield than this, and contains an interesting and eminently readable series of essays on various types and topics suggested by the successive seasons of the year. The book is well illustrated, some of the ecological photographs being very fine. The author never sacrifices accuracy in his successful efforts at clearness and simplicity, but he has overlooked many results of recent research which might well have been incorporated in his pleasantly written essays. The underground leaves of the toothwort are by no means useless organs; the old fiction about their carnivorous function is not repeated here, though it frequently recurs in popular books, but Groom's demonstration that they serve for excreting as liquid the water which the plant cannot get rid of as vapour is a long time in finding its way into text-books and thence into more popular works.

(5) This excellent and well-illustrated book gives a full but concise description of the various vegetable fibres used in commerce, with instructions for their microscopical examination. Though adapted for use in laboratories of the textile departments of technological institutes, the work is of interest to the purely botanical reader from its interesting description and figures of the sclerenchymatous tissues of plants and their distribution.

(6) The illustrations in this handsome book are well up to the general level of excellence attained in the two preceding volumes of the series, though here again, doubtless owing to difficulties in reproduction processes, some of the colours are scarcely true to life. Some of the plates are particularly fine—for instance, those representing the bramble, the cross-leaved heath, the red rattle, and the field rose. The text is not such as to tax unduly the intelligence of the reader, and is inclined to be hasty and slovenly; even the familiar quotation from Shakespeare about the daffodil in the first sentence of the book is given wrongly—for "deck" read "take." The figures in the text are very poor, being uniformly too small or too

diagrammatic, or showing both faults with inaccuracy thrown in.

(7) Mr. Günther is to be congratulated on having produced an excellent guide to the Oxford Botanic Garden, despite difficulties, as to sources of information, which ought never to have existed and would have discouraged a less industrious and enthusiastic writer. The book is bright and gossipy, as a guide to any garden perhaps should be, and here and there a trifle dogmatic and sometimes wrong on botanical topics—also as one expects in a guide. Two of the memoirs listed on p. 161 are attributed to the wrong author, but these and other minor blemishes could easily be rectified in a new edition, which is almost certain to be called for.

(8) Every garden-lover, whether ignorant or not, will welcome this new book by the authoress of "Pot-pourri from a Surrey Garden." It contains many useful wrinkles, and whether or not it can be recommended as the best guide for the novice, it is at any rate a useful and delightful book and a splendid shillingsworth. Mrs. Earle again shows her possession of a style that makes it impossible for her to write a dull page, and this pleasant chat about gardening has nothing more formal in it than the fact that the chapters are headed with the names of the twelve months in due order.

(9, 10) The volumes on annuals and irises in the "Present Day Gardening" series, edited by Mr. R. Hooper Pearson, fully maintain the high standard set in previous volumes, and are illustrated each by eight beautiful coloured plates by Mr. T. Ernest Weltham. The volume on annuals by Mr. Charles H. Curtis will certainly help to popularise the culture of these plants, which have so much to recommend them, and which are now regaining the attention they deserve at the hands of present-day gardeners. On Mr. W. Rickatson Dykes, as Prof. Bayley Balfour justly remarks in his preface, has certainly descended, in the realm of iris, the mantle of the late Sir Michael Foster. This volume, though small, is remarkably concise and compendious, and while it will carry the grower of irises a long way, it will also form an admirable introduction to the author's large book on irises which is to be published shortly by the Cambridge University Press.

(11) Mr. J. T. Bealby is recognised as an authority on fruit-farming in British Columbia, and in this small book on orchards he gives a clear and practical account of the possibilities presented by that country for fruit-farmers wishing to emigrate there.

F. CAVERS.